

SEQUENCE LISTING

<110> PALESE, PETER
BASLER, CHRISTOPHER F.
GARCIA-SASTRE, ADOLFO

<120> CHRIS-LIKE VIRUS, COMPOSITIONS, VACCINES AND USES THEREOF

<130> PP-26000-US

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<150> 60/483,337
<151> 2003-06-27

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<170> PatentIn Ver. 3.2

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<212> DNA

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 caacttctat tatatgcaaa tcagacacta gtaccctat tagttctgct acttgggctc 2460
 tgtgctacag ggaatgtaac tagctgcgcc agaactaggg ttgttaatgc tcatgtcccc 2520
 aggttgctc tctcaggtgg ttgttatattt gctaattgtg cacctgtgt atgtaaatgc 2580
 caagatccgc ttatagcat aaatcaagaa cccaaagtga caaatgtaat ggtcgatgtt 2640
 gatgcctgta aagagatgta tcttgcgttta ttatacataa cacttggtaa gtcacagtta 2700
 cccctgtcta tggatgtgttctt ttggggaggtc caataagcgt ggatctcata 2760
 gacctgggca atgagatcaa ttcaatcaat agtgcacatca ataggtcgga ggagcatctg 2820
 gatcatgcaa atgagctact tggatgtgtt aatcctaaga tagtcaatgt caagacccctc 2880
 ggggttatgt tggatgtgttctt atactatgtt gtgttgcac ttgttgg 2940
 ctcatttgcc ttacaaaaca agtgagtaga gtgtctttt gaggaaagcat ggtagtcgg 3000
 gcacccgacag ttaatttcaact ctccggattt gtgggttaac ataaagaaaaa tggtactctg 3060
 gttataatat acatgatttag tatttgcgtt gaccctttac ggtacaatcc agcttaggct 3120
 ctatcattcc tatttcaata aggtgctaac caaaaaaaaaa aaaaaaaaaa 3170

<210> 9
 <211> 340
 <212> PRT
 <213> Paramyxovirus Chris-like Virus
 <400> 9

Met	Ala	Gly	Asn	Ala	Gly	Thr	Ala	Asp	Phe	Leu	Asn	Ser	Ser	Trp	Glu
1														15	
Glu	Gly	Gly	Thr	Leu	Thr	Ala	Ile	Asp	Pro	Glu	Ala	Asp	Glu	Arg	Gly
														30	
Arg	Leu	Ile	Pro	Lys	Tyr	Arg	Val	Ile	Asn	Pro	Gly	Thr	Asn	Ser	Arg
														45	
Lys	Ser	Ala	Gly	Tyr	Met	Tyr	Leu	Leu	Val	His	Gly	Ile	Ile	Glu	Glu
														60	
Lys	Asp	Val	Ala	Gly	Ala	Ser	Ala	Lys	Asn	Asn	Lys	Thr	Phe	Ala	Ala
														80	
Phe	Pro	Leu	Gly	Val	Gly	Arg	Ser	Asn	Ala	Leu	Pro	Gln	Asp	Leu	Leu
														95	
Asp	Ser	Val	Val	Gly	Leu	Asp	Val	Thr	Val	Arg	Arg	Thr	Ala	Gly	Ser
														110	
Ser	Glu	Met	Leu	Val	Phe	Gly	Thr	Ser	Asn	Ile	Ser	Pro	Val	Leu	Thr
														125	
115															

Pro Trp Lys Asp Ile Leu Thr Thr Gly Ala Ile Phe Pro Ala Ile Lys
 130 135 140
 Val Cys Asn Asn Val Asp Met Val Ala Val Asp Arg Gln Gln Lys Phe
 145 150 155 160
 Arg Cys Ile Phe Leu Thr Ile Thr Met Leu Thr Asp Ala Gly Val Tyr
 165 170 175
 Lys Val Pro Lys Thr Ile Leu Asp Phe Arg Met Ala Asn Ala Val Ser
 180 185 190
 Phe Asn Leu Leu Val Glu Leu Leu Ile Gly Ala Asp Met Thr Ala Ser
 195 200 205
 Gly Ile Lys Gly Ile Ile Asn Asp Tyr Gly Glu Arg Val Thr Thr Phe
 210 215 220
 Met Ile His Val Gly Asn Phe Leu Arg Arg Arg Asn Lys Glu Tyr Ser
 225 230 235 240
 Val Asp Tyr Cys Arg Gln Lys Ile Asp Lys Met Asp Leu Arg Phe Ser
 245 250 255
 Leu Gly Ala Val Gly Gly Leu Ser Leu His Val Cys Ile Lys Gly Lys
 260 265 270
 Met Ser Asn Ala Leu Lys Ala Gln Leu Gly Tyr Lys Thr Thr Ile Cys
 275 280 285
 Tyr Ser Leu Met Asp Thr Asn Pro Tyr Leu Asn Lys Leu Met Trp Lys
 290 295 300
 Ala Glu Cys Lys Ile Asn Lys Val Thr Ala Val Leu Gln Pro Ser Val
 305 310 315 320
 Pro Lys Glu Phe Lys Val Tyr Glu Asp Val Leu Ile Asp His Thr Gly
 325 330 335
 Lys Ile Met Lys
 340

<210> 10

<211> 497

<212> PRT

<213> Paramyxovirus Chris-like Virus

<400> 10

Met Ser Asp Tyr Asn Pro Asp Val Leu Gln Gln Leu Val Lys Asp Gly
 1 5 10 15
 Ile Lys Thr Ile Glu Leu Leu Gln Gln Ser Pro Glu Asp Phe Gln Lys
 20 25 30
 Thr Tyr Gly Arg Ser Ala Ile Gln Glu Pro Ser Thr Arg Ala Arg Ile
 35 40 45
 Gln Ser Trp Glu Ser Arg Asn Pro Asp His Asp Tyr Thr Gly Asn Lys
 50 55 60
 Asn Gln Arg Ser Glu Gly Ala Lys Glu Arg Ala Asn Lys Ser Glu Ser
 65 70 75 80
 Ala Gly Thr Ala Ser Ala Asp Gly Gly His Gly Asp Lys Pro Ser Asn
 85 90 95
 Asn Gly Gly Asp Ser Gln Asn Glu Tyr Gln Gly Ser Asp Gln Gln Val
 100 105 110
 Trp Asp Ala Ala Tyr Asn Asp Gly Asn Ser Gly Gly Ala Trp Gly Gly
 115 120 125
 Pro Thr Gly Gly Leu Pro Thr Ala Gly Glu Arg Gly Tyr Pro Ile Thr
 130 135 140
 Thr Gly Asn Gln Glu Phe Glu Gly Tyr His Pro Asp Gly Pro Val Asp
 145 150 155 160
 Ala Arg Glu Tyr Asn Gln Ile Ser Ser Met Asp His Glu Met Ser Ala
 165 170 175
 Ala Glu Thr Leu Gly Ser Ser Thr Gln Leu Thr Thr Met Arg Asn Ala
 180 185 190

Thr Thr Asp Asp Phe Ala Lys Ile Phe Glu Glu Gly Thr Pro Lys Val
 195 200 205
 His Arg Arg Leu Arg Gly Ile Thr Ala Val Val Pro Ala Gln Lys Gln
 210 215 220
 Pro Gly Ala Val Gly Gly Pro Val Lys Lys Gly Thr Asp Gly Ser Thr
 225 230 235 240
 Ala Ser Thr Leu Leu Gly Asp Val Pro Leu Ser Gly Ser Gly Ala Ile
 245 250 255
 Pro Asn Val His Pro Ser Leu Leu His Gln Pro Lys Lys Asn Ala His
 260 265 270
 Ala Glu Asn Ala Gln Gly Ser Val Gln Asp Val Ser Thr Thr Gly Ala
 275 280 285
 Ile Gly Gln Ser Asp Glu Ala Ala His Phe Asp Gln Glu Ile Glu Gly
 290 295 300
 Lys Leu Asn Leu Val Leu Lys Glu Leu Asp Leu Ile Ser Lys Lys Leu
 305 310 315 320
 Asp Tyr Leu Pro Glu Ile Lys Glu Glu Ile Arg Asn Ile Asn Lys Lys
 325 330 335
 Ile Thr Asn Leu Ser Leu Gly Leu Leu Tyr Ser Leu Lys Thr Tyr Ile
 340 345 350
 Lys Ser Met Met Ile Ile Pro Ser Ser Gly Lys Pro Asp Val Asn
 355 360 365
 Asp Thr Ala Glu Val Asn Pro Asp Leu Lys Ala Val Ile Gly Arg Asp
 370 375 380
 Lys Thr Arg Gly Leu Lys Glu Val Thr Thr His Arg Ser Asp Leu Glu
 385 390 395 400
 Ser Leu Asp Leu Leu Ser Pro Ala Thr Ser Glu Ile Asp Pro Lys Tyr
 405 410 415
 Leu Thr Gln Asp Leu Asp Phe Thr Lys Ser Asn Ala Ala Asn Phe Val
 420 425 430
 Pro Gly Asn Asp Ala Ser Ser Phe Tyr Thr Ile Val Ala Met Ile Lys
 435 440 445
 Gly Glu Val Thr Asp Val Lys Arg Gln Gln Glu Leu Ile Lys Trp Val
 450 455 460
 Ser Asp Ser Met Asn Lys His Pro Met Gly Gln Ile Tyr Arg Val Val
 465 470 475 480
 Arg Glu Ala Leu Asp Ala Glu Ser Asp Ser Ser Ser Ser Asp Ser
 485 490 495
 Asp

<210> 11
 <211> 546
 <212> PRT
 <213> Paramyxovirus Chris-like Virus
 <400> 11
 Met Glu Val Thr Ile Leu Thr Ala Tyr Ile Ala Ala Ser Val Phe Thr
 1 5 10 15
 Cys Cys His Ser Gln Leu Ala Leu Ser Glu Leu Thr Lys Ile Gly Ile
 20 25 30
 Ile Pro Gly Arg Ser Tyr Asp Leu Lys Thr Ser Thr Gln Ala Ser Tyr
 35 40 45
 Gln Tyr Met Val Ile Lys Leu Ile Pro Asn Val Asn Gly Leu Asn Asn
 50 55 60
 Cys Thr Asn Ser Thr Val Glu Ser Tyr Lys Lys Met Leu Thr Arg Leu
 65 70 75 80
 Leu Asn Pro Ile Asp Val Ala Leu Lys Lys Met Lys Asn Ala Val Ser
 85 90 95

Asp Lys Ala Pro Glu Lys Leu Gly Asn Val Glu Phe Trp Gly Ala Val
 100 105 110
 Ile Gly Gly Val Ala Leu Gly Val Ala Thr Ser Ala Gln Ile Thr Ala
 115 120 125
 Gly Val Ala Leu His Asn Ser Ile Gln Asn Ala Asn Ala Ile Leu Thr
 130 135 140
 Leu Lys Asp Ser Ile Arg Gln Ser Asn Lys Ala Ile Gln Glu Leu Gln
 145 150 155 160
 Thr Ala Met Ser Thr Thr Val Val Val Leu Asn Ala Leu Gln Asp Gln
 165 170 175
 Ile Asn Asn Gln Leu Ala Pro Ala Ile Asn Ser Leu Gly Cys Gln Val
 180 185 190
 Val Ala Asn Thr Leu Gly Leu Lys Leu Asn Gln Tyr Phe Ser Glu Ile
 195 200 205
 Ser Leu Val Phe Gly Pro Asn Leu Arg Asp Pro Thr Ser Glu Thr Leu
 210 215 220
 Ser Ile Gln Ala Leu Ser Arg Ala Phe Asn Gly Asp Phe Asp Ser Ile
 225 230 235 240
 Ala Val Leu Asp Leu Asn Met Met Thr Val Ile Ser Leu Ile Leu Leu
 245 250 255
 Glu Ser Asp Ser Ile Arg Gly Arg Ile Ile Asp Val Ser Leu Glu Asp
 260 265 270
 Tyr Leu Ile Thr Ile Gln Ile Glu Tyr Pro Ala Leu Leu Thr Ile Lys
 275 280 285
 Asp Gly Tyr Tyr Thr Asp Ile Gln Phe Asn Lys Leu Leu Ile Leu Glu
 290 295 300
 Glu Leu Ser Gly Tyr Leu Tyr Phe Leu Ser Ser Cys Trp Leu Glu Gly
 305 310 315 320
 Leu Thr Tyr Leu Thr Leu Ile Tyr His Asn Val Phe Leu Leu Gln Leu
 325 330 335
 Leu Leu Tyr Ala Asn Gln Thr Leu Val Pro Leu Leu Val Leu Leu
 340 345 350
 Gly Leu Val Leu Gln Gly Met Leu Thr Ser Cys Ala Arg Thr Arg Val
 355 360 365
 Val Asn Ala His Val Pro Arg Phe Ala Leu Ser Gly Gly Val Ile Phe
 370 375 380
 Ala Asn Cys Ala Pro Val Val Cys Lys Cys Gln Asp Pro Leu Tyr Ser
 385 390 395 400
 Ile Asn Gln Glu Pro Lys Val Thr Asn Val Met Val Asp Val Asp Ala
 405 410 415
 Cys Lys Glu Met Tyr Leu Asp Gly Leu Tyr Ile Thr Leu Gly Lys Ser
 420 425 430
 Gln Leu Pro Arg Ala Met Tyr Ala Glu Asp Val Ser Leu Gly Gly Pro
 435 440 445
 Ile Ser Val Asp Leu Ile Asp Leu Gly Asn Glu Ile Asn Ser Ile Asn
 450 455 460
 Ser Ala Ile Asn Arg Ser Glu Glu His Leu Asp His Ala Asn Glu Leu
 465 470 475 480
 Leu Asp Gln Val Asn Pro Lys Ile Val Asn Val Lys Thr Phe Gly Val
 485 490 495
 Met Leu Gly Leu Leu Leu Leu Ile Leu Trp Cys Val Val Thr Leu
 500 505 510
 Val Trp Leu Ile Cys Leu Thr Lys Gln Val Ser Arg Val Ser Phe Gly
 515 520 525
 Gly Ser Met Gly Ser Arg Ala Pro Thr Val Asn Ser Leu Ser Gly Phe
 530 535 540
 Val Gly

<210> 12
 <211> 292
 <212> PRT
 <213> Paramyxovirus Chris-like Virus
 <400> 12

Met Ser Asp Tyr Asn Pro Asp Val Leu Gln Gln Leu Val Lys Asp Gly
 1 5 10 15
 Ile Lys Thr Ile Glu Leu Leu Gln Gln Ser Pro Glu Asp Phe Gln Lys
 20 25 30
 Thr Tyr Gly Arg Ser Ala Ile Gln Glu Pro Ser Thr Arg Ala Arg Ile
 35 40 45
 Gln Ser Trp Glu Ser Arg Asn Pro Asp His Asp Tyr Thr Gly Asn Lys
 50 55 60
 Asn Gln Arg Ser Glu Gly Ala Lys Glu Arg Ala Asn Lys Ser Glu Ser
 65 70 75 80
 Ala Gly Thr Ala Ser Ala Asp Gly Gly His Gly Asp Lys Pro Ser Asn
 85 90 95
 Asn Gly Gly Asp Ser Gln Asn Glu Tyr Gln Gly Ser Asp Gln Gln Val
 100 105 110
 Trp Asp Ala Ala Tyr Asn Asp Gly Asn Ser Gly Gly Ala Trp Gly Gly
 115 120 125
 Pro Thr Gly Gly Leu Pro Thr Ala Gly Glu Arg Gly Tyr Pro Ile Thr
 130 135 140
 Thr Gly Asn Gln Glu Phe Glu Gly Tyr His Pro Asp Gly Pro Val Asp
 145 150 155 160
 Ala Arg Glu Tyr Asn Gln Ile Ser Ser Met Asp His Glu Met Ser Ala
 165 170 175
 Ala Glu Thr Leu Gly Ser Ser Thr Gln Leu Thr Thr Met Arg Asn Ala
 180 185 190
 Thr Thr Asp Asp Phe Ala Lys Ile Phe Glu Glu Gly Thr Pro Lys Val
 195 200 205
 His Arg Arg Leu Arg Gly Ile Thr Ala Val Val Pro Ala Gln Lys Gln
 210 215 220
 Pro Gly Ala Val Gly Gly Pro Val Lys Lys Gly His Arg Arg Glu Tyr
 225 230 235 240
 Cys Ile Asp Thr Phe Gly Gly Arg Thr Ile Ile Arg Glu Trp Cys Asn
 245 250 255
 Pro Gln Cys Ala Pro Leu Thr Val Thr Pro Thr Gln Lys Glu Cys Ser
 260 265 270
 Cys Gly Glu Cys Pro Arg Gln Cys Ala Arg Cys Ile Asp Asp Arg Gly
 275 280 285
 Tyr Trp Pro Lys
 290

<210> 13
 <211> 160
 <212> PRT
 <213> Paramyxovirus Chris-like Virus
 <400> 13

Met Ser Ser Ser Ser Leu Ser Arg Met Glu Ser Arg Leu Ser Ser Phe
 1 5 10 15
 Tyr Ser Arg Val Arg Lys Thr Phe Arg Arg Arg Thr Ala Glu Val Pro
 20 25 30

Ser Arg Ser Arg Arg Gln Glu Pro Glu Ser Lys Val Gly Ser Pro Ala
 35 40 45
 Ile Pro Ile Met Ile Thr Pro Val Ile Lys Ile Arg Glu Ala Arg Glu
 50 55 60
 Leu Lys Arg Glu Gln Thr Arg Ala Arg Ala Arg Glu Leu Leu Gln Leu
 65 70 75 80
 Met Glu Asp Met Glu Ile Asn Pro Gln Ile Thr Gly Val Thr Pro Lys
 85 90 95
 Thr Ser Thr Lys Gly Gln Ile Asn Arg Tyr Gly Met Leu Arg Ile Met
 100 105 110
 Met Gly Ile Val Ala Glu Leu Gly Glu Val Pro Gln Val Asp Phe Pro
 115 120 125
 Arg Leu Glu Lys Glu Gly Ile Leu Ser Gln Gln Glu Ile Lys Asn Leu
 130 135 140
 Arg Asp Thr Ile Pro Thr Val Gln Leu Met Leu Glu Ser Ile Ile Arg
 145 150 155 160

<210> 14
 <211> 313
 <212> PRT
 <213> Paramyxovirus Chris-like Virus

<400> 14
 Met Ser Asp Tyr Asn Pro Asp Val Leu Gln Gln Leu Val Lys Asp Gly
 1 5 10 15
 Ile Lys Thr Ile Glu Leu Leu Gln Gln Ser Pro Glu Asp Phe Gln Lys
 20 25 30
 Thr Tyr Gly Arg Ser Ala Ile Gln Glu Pro Ser Thr Arg Ala Arg Ile
 35 40 45
 Gln Ser Trp Glu Ser Arg Asn Pro Asp His Asp Tyr Thr Gly Asn Lys
 50 55 60
 Asn Gln Arg Ser Glu Gly Ala Lys Glu Arg Ala Asn Lys Ser Glu Ser
 65 70 75 80
 Ala Gly Thr Ala Ser Ala Asp Gly Gly His Gly Asp Lys Pro Ser Asn
 85 90 95
 Asn Gly Gly Asp Ser Gln Asn Glu Tyr Gln Gly Ser Asp Gln Gln Val
 100 105 110
 Trp Asp Ala Ala Tyr Asn Asp Gly Asn Ser Gly Gly Ala Trp Gly Gly
 115 120 125
 Pro Thr Gly Gly Leu Pro Thr Ala Gly Glu Arg Gly Tyr Pro Ile Thr
 130 135 140
 Thr Gly Asn Gln Glu Phe Glu Gly Tyr His Pro Asp Gly Pro Val Asp
 145 150 155 160
 Ala Arg Glu Tyr Asn Gln Ile Ser Ser Met Asp His Glu Met Ser Ala
 165 170 175
 Ala Glu Thr Leu Gly Ser Ser Thr Gln Leu Thr Thr Met Arg Asn Ala
 180 185 190
 Thr Thr Asp Asp Phe Ala Lys Ile Phe Glu Glu Gly Thr Pro Lys Val
 195 200 205
 His Arg Arg Leu Arg Gly Ile Thr Ala Val Val Pro Ala Gln Lys Gln
 210 215 220
 Pro Gly Ala Val Gly Gly Pro Val Lys Lys Gly Ala Pro Thr Gly Val
 225 230 235 240
 Leu His Arg His Phe Trp Gly Thr Tyr His Tyr Pro Gly Val Val Gln
 245 250 255
 Ser Pro Met Cys Thr Pro His Cys Tyr Thr Asn Pro Lys Arg Met Leu

260	265	270
Met Arg Arg Met Pro Lys Ala Val Cys Lys Met Tyr Arg Arg Pro Gly		
275	280	285
Leu Leu Ala Lys Val Thr Arg Leu His Thr Leu Ile Arg Arg Leu Lys		
290	295	300
Glu Asn Ser Ile Leu Cys Leu Arg Asn		
305	310	

<210> 15		
<211> 709		
<212> PRT		
<213> Paramyxovirus Nipah Virus		
<400> 15		
Met Asp Lys Leu Glu Leu Val Asn Asp Gly Leu Asn Ile Ile Asp Phe		
1 5 10 15		
Ile Gln Lys Asn Gln Lys Glu Ile Gln Lys Thr Tyr Gly Arg Ser Ser		
20 25 30		
Ile Gln Gln Pro Ser Ile Lys Asp Gln Thr Lys Ala Trp Glu Asp Phe		
35 40 45		
Leu Gln Cys Thr Ser Gly Glu Ser Glu Gln Val Glu Gly Gly Met Ser		
50 55 60		
Lys Asp Asp Gly Asp Val Glu Arg Arg Asn Leu Glu Asp Leu Ser Ser		
65 70 75 80		
Thr Ser Pro Thr Asp Gly Thr Ile Gly Lys Arg Val Ser Asn Thr Arg		
85 90 95		
Asp Trp Ala Glu Gly Ser Asp Asp Ile Gln Leu Asp Pro Val Val Thr		
100 105 110		
Asp Val Val Tyr His Asp His Gly Gly Glu Cys Thr Gly Tyr Gly Phe		
115 120 125		
Thr Ser Ser Pro Glu Arg Gly Trp Ser Asp Tyr Thr Ser Gly Ala Asn		
130 135 140		
Asn Gly Asn Val Cys Leu Val Ser Asp Ala Lys Met Leu Ser Tyr Ala		
145 150 155 160		
Pro Glu Ile Ala Val Ser Lys Glu Asp Arg Glu Thr Asp Leu Val His		
165 170 175		
Leu Glu Asn Lys Leu Ser Thr Thr Gly Leu Asn Pro Thr Ala Val Pro		
180 185 190		
Phe Thr Leu Arg Asn Leu Ser Asp Pro Ala Lys Asp Ser Pro Val Ile		
195 200 205		
Ala Glu His Tyr Tyr Gly Leu Gly Val Lys Glu Gln Asn Val Gly Pro		
210 215 220		
Gln Thr Ser Arg Asn Val Asn Leu Asp Ser Ile Lys Leu Tyr Thr Ser		
225 230 235 240		
Asp Asp Glu Glu Ala Asp Gln Leu Glu Phe Glu Asp Glu Phe Ala Gly		
245 250 255		
Ser Ser Ser Glu Val Ile Val Gly Ile Ser Pro Glu Asp Glu Glu Pro		
260 265 270		
Ser Ser Val Gly Gly Lys Pro Asn Glu Ser Ile Gly Arg Thr Ile Glu		
275 280 285		
Gly Gln Ser Ile Arg Asp Asn Leu Gln Ala Lys Asp Asn Lys Ser Thr		
290 295 300		
Asp Val Pro Gly Ala Gly Pro Lys Asp Ser Ala Val Lys Glu Glu Pro		
305 310 315 320		
Pro Gln Lys Arg Leu Pro Met Leu Ala Glu Glu Phe Glu Cys Ser Gly		
325 330 335		
Ser Glu Asp Pro Ile Ile Arg Glu Leu Leu Lys Glu Asn Ser Leu Ile		

340	345	350
Asn Cys Gln Gln Gly Lys Asp Ala Gln Pro Pro Tyr His Trp Ser Ile		
355	360	365
Glu Arg Ser Ile Ser Pro Asp Lys Thr Glu Ile Val Asn Gly Ala Val		
370	375	380
Gln Thr Ala Asp Arg Gln Arg Pro Gly Thr Pro Met Pro Lys Ser Arg		
385	390	395
Gly Ile Pro Ile Lys Lys Gly Thr Asp Ala Lys Tyr Pro Ser Ala Gly		
405	410	415
Thr Glu Asn Val Pro Gly Ser Lys Ser Gly Ala Thr Arg His Val Arg		
420	425	430
Gly Ser Pro Pro Tyr Gln Glu Gly Lys Ser Val Asn Ala Glu Asn Val		
435	440	445
Gln Leu Asn Ala Ser Thr Ala Val Lys Glu Thr Asp Lys Ser Glu Val		
450	455	460
Asn Pro Val Asp Asp Asn Asp Ser Leu Asp Asp Lys Tyr Ile Met Pro		
465	470	475
Ser Asp Asp Phe Ser Asn Thr Phe Phe Pro His Asp Thr Asp Arg Leu		
485	490	495
Asn Tyr His Ala Asp His Leu Gly Asp Tyr Asp Leu Glu Thr Leu Cys		
500	505	510
Glu Glu Ser Val Leu Met Gly Val Ile Asn Ser Ile Lys Leu Ile Asn		
515	520	525
Leu Asp Met Arg Leu Asn His Ile Glu Glu Gln Val Lys Glu Ile Pro		
530	535	540
Lys Ile Ile Asn Lys Leu Glu Ser Ile Asp Arg Val Leu Ala Lys Thr		
545	550	555
Asn Thr Ala Leu Ser Thr Ile Glu Gly His Leu Val Ser Met Met Ile		
565	570	575
Met Ile Pro Gly Lys Gly Lys Gly Glu Arg Lys Gly Lys Asn Asn Pro		
580	585	590
Glu Leu Lys Pro Val Ile Gly Arg Asp Ile Leu Glu Gln Gln Ser Leu		
595	600	605
Phe Ser Phe Asp Asn Val Lys Asn Phe Arg Asp Gly Ser Leu Thr Asn		
610	615	620
Glu Pro Tyr Gly Ala Ala Val Gln Leu Arg Glu Asp Leu Ile Leu Pro		
625	630	635
Glu Leu Asn Phe Glu Glu Thr Asn Ala Ser Gln Phe Val Pro Met Ala		
645	650	655
Asp Asp Ser Ser Arg Asp Val Ile Lys Thr Leu Ile Arg Thr His Ile		
660	665	670
Lys Asp Arg Glu Leu Arg Ser Glu Leu Ile Gly Tyr Leu Asn Lys Ala		
675	680	685
Glu Asn Asp Glu Glu Ile Gln Glu Ile Ala Asn Thr Val Asn Asp Ile		
690	695	700
Ile Asp Gly Asn Ile		
705		

<210> 16

<211> 352

<212> PRT

<213> Paramyxovirus Nipah Virus

<400> 16

Met Glu Pro Asp Ile Lys Ser Ile Ser Ser Glu Ser Met Glu Gly Val		
1	5	10
15		

Ser Asp Phe Ser Pro Ser Ser Trp Glu His Gly Gly Tyr Leu Asp Lys

	20	25	30												
Val	Glu	Pro	Glu	Ile	Asp	Glu	Asn	Gly	Ser	Met	Ile	Pro	Lys	Tyr	Lys
	35					40					45				
Ile	Tyr	Thr	Pro	Gly	Ala	Asn	Glu	Arg	Lys	Tyr	Asn	Asn	Tyr	Met	Tyr
	50					55					60				
Leu	Ile	Cys	Tyr	Gly	Phe	Val	Glu	Asp	Val	Glu	Arg	Thr	Pro	Glu	Thr
	65					70				75					80
Gly	Lys	Arg	Lys	Lys	Ile	Arg	Thr	Ile	Ala	Ala	Tyr	Pro	Leu	Gly	Val
	85					90					95				
Gly	Lys	Ser	Ala	Ser	His	Pro	Gln	Asp	Leu	Leu	Glu	Glu	Leu	Cys	Ser
	100					105					110				
Leu	Lys	Val	Thr	Val	Arg	Arg	Thr	Ala	Gly	Ser	Thr	Glu	Lys	Ile	Val
	115					120					125				
Phe	Gly	Ser	Ser	Gly	Pro	Leu	Asn	His	Leu	Val	Pro	Trp	Lys	Lys	Val
	130					135					140				
Leu	Thr	Ser	Gly	Ser	Ile	Phe	Asn	Ala	Val	Lys	Val	Cys	Arg	Asn	Val
	145					150				155					160
Asp	Gln	Ile	Gln	Leu	Asp	Lys	His	Gln	Ala	Leu	Arg	Ile	Phe	Phe	Leu
						165				170					175
Ser	Ile	Thr	Lys	Leu	Asn	Asp	Ser	Gly	Ile	Tyr	Met	Ile	Pro	Arg	Thr
						180				185					190
Met	Leu	Glu	Phe	Arg	Arg	Asn	Asn	Ala	Ile	Ala	Phe	Asn	Leu	Leu	Val
						195				200					205
Tyr	Leu	Lys	Ile	Asp	Ala	Asp	Leu	Ser	Lys	Met	Gly	Ile	Gln	Gly	Ser
						210				215					220
Leu	Asp	Lys	Asp	Gly	Phe	Lys	Val	Ala	Ser	Phe	Met	Leu	His	Leu	Gly
						225				230					240
Asn	Phe	Val	Arg	Arg	Ala	Gly	Lys	Tyr	Tyr	Ser	Val	Asp	Tyr	Cys	Arg
						245				250					255
Arg	Lys	Ile	Asp	Arg	Met	Lys	Leu	Gln	Phe	Ser	Leu	Gly	Ser	Ile	Gly
						260				265					270
Gly	Leu	Ser	Leu	His	Ile	Lys	Ile	Asn	Gly	Val	Ile	Ser	Lys	Arg	Leu
						275				280					285
Phe	Ala	Gln	Met	Gly	Phe	Gln	Lys	Asn	Leu	Cys	Phe	Ser	Leu	Met	Asp
						290				295					300
Ile	Asn	Pro	Trp	Leu	Asn	Arg	Leu	Thr	Trp	Asn	Asn	Ser	Cys	Glu	Ile
						305				310					320
Ser	Arg	Val	Ala	Ala	Val	Leu	Gln	Pro	Ser	Ile	Pro	Arg	Glu	Phe	Met
						325				330					335
Ile	Tyr	Asp	Asp	Val	Phe	Ile	Asp	Asn	Thr	Gly	Arg	Ile	Leu	Lys	Gly
						340				345					350

<210> 17

<211> 546

<212> PRT

<213> Paramyxovirus Nipah Virus

<400> 17

Met	Val	Val	Ile	Leu	Asp	Lys	Arg	Cys	Tyr	Cys	Asn	Leu	Leu	Ile	Leu
1				5				10					15		
Ile	Leu	Met	Ile	Ser	Glu	Cys	Ser	Val	Gly	Ile	Leu	His	Tyr	Glu	Lys
						20			25					30	
Leu	Ser	Lys	Ile	Gly	Leu	Val	Lys	Gly	Val	Thr	Arg	Lys	Tyr	Lys	Ile
						35			40					45	
Lys	Ser	Asn	Pro	Leu	Thr	Lys	Asp	Ile	Val	Ile	Lys	Met	Ile	Pro	Asn
						50			55					60	
Val	Ser	Asn	Met	Ser	Gln	Cys	Thr	Gly	Ser	Val	Met	Glu	Asn	Tyr	Lys

65	70	75	80
Thr Arg Leu Asn Gly Ile Leu Thr Pro Ile Lys Gly Ala Leu Glu Ile			
85	90	95	
Tyr Lys Asn Asn Thr His Asp Leu Val Gly Asp Val Arg Leu Ala Gly			
100	105	110	
Val Ile Met Ala Gly Val Ala Ile Gly Ile Ala Thr Ala Ala Gln Ile			
115	120	125	
Thr Ala Gly Val Ala Leu Tyr Glu Ala Met Lys Asn Ala Asp Asn Ile			
130	135	140	
Asn Lys Leu Lys Ser Ser Ile Glu Ser Thr Asn Glu Ala Val Val Lys			
145	150	155	160
Leu Gln Glu Thr Ala Glu Lys Thr Val Tyr Val Leu Thr Ala Leu Gln			
165	170	175	
Asp Tyr Ile Asn Thr Asn Leu Val Pro Thr Ile Asp Lys Ile Ser Cys			
180	185	190	
Lys Gln Thr Glu Leu Ser Leu Asp Leu Ala Leu Ser Lys Tyr Leu Ser			
195	200	205	
Asp Leu Leu Phe Val Phe Gly Pro Asn Leu Gln Asp Pro Val Ser Asn			
210	215	220	
Ser Met Thr Ile Gln Ala Ile Ser Gln Ala Phe Gly Gly Asn Tyr Glu			
225	230	235	240
Thr Leu Leu Arg Thr Leu Gly Tyr Ala Thr Glu Asp Phe Asp Asp Leu			
245	250	255	
Leu Glu Ser Asp Ser Ile Thr Gly Gln Ile Ile Tyr Val Asp Leu Ser			
260	265	270	
Ser Tyr Tyr Ile Ile Val Arg Val Tyr Phe Pro Ile Leu Thr Glu Ile			
275	280	285	
Gln Gln Ala Tyr Ile Gln Glu Leu Leu Pro Val Ser Phe Asn Asn Asp			
290	295	300	
Asn Ser Glu Trp Ile Ser Ile Val Pro Asn Phe Ile Leu Val Arg Asn			
305	310	315	320
Thr Leu Ile Ser Asn Ile Glu Ile Gly Phe Cys Leu Ile Thr Lys Arg			
325	330	335	
Ser Val Ile Cys Asn Gln Asp Tyr Ala Thr Pro Met Thr Asn Asn Met			
340	345	350	
Arg Glu Cys Leu Thr Gly Ser Thr Glu Lys Cys Pro Arg Glu Leu Val			
355	360	365	
Val Ser Ser His Val Pro Arg Phe Ala Leu Ser Asn Gly Val Leu Phe			
370	375	380	
Ala Asn Cys Ile Ser Val Thr Cys Gln Cys Gln Thr Thr Gly Arg Ala			
385	390	395	400
Ile Ser Gln Ser Gly Glu Gln Thr Leu Leu Met Ile Asp Asn Thr Thr			
405	410	415	
Cys Pro Thr Ala Val Leu Gly Asn Val Ile Ile Ser Leu Gly Lys Tyr			
420	425	430	
Leu Gly Ser Val Asn Tyr Asn Ser Glu Gly Ile Ala Ile Gly Pro Pro			
435	440	445	
Val Phe Thr Asp Lys Val Asp Ile Ser Ser Gln Ile Ser Ser Met Asn			
450	455	460	
Gln Ser Leu Gln Gln Ser Lys Asp Tyr Ile Lys Glu Ala Gln Arg Leu			
465	470	475	480
Leu Asp Thr Val Asn Pro Ser Leu Ile Ser Met Leu Ser Met Ile Ile			
485	490	495	
Leu Tyr Val Leu Ser Ile Ala Ser Leu Cys Ile Gly Leu Ile Thr Phe			
500	505	510	
Ile Ser Phe Ile Ile Val Glu Lys Lys Arg Asn Thr Tyr Ser Arg Leu			
515	520	525	

Glu Asp Arg Arg Val Arg Pro Thr Ser Ser Gly Asp Leu Tyr Tyr Ile
530 535 540

Gly Thr
545

<210> 18

<211> 64

<212> PRT

<213> Paramyxovirus Nipah Virus

<400> 18

Pro Gly Thr Pro Met Pro Lys Ser Arg Gly Ile Pro Ile Lys Lys Gly
1 5 10 15

His Arg Arg Glu Ile Ser Ile Cys Trp Asp Gly Lys Arg Ala Trp Val
20 25 30

Glu Glu Trp Cys Asn Pro Ala Cys Ser Arg Ile Thr Pro Leu Pro Arg
35 40 45

Arg Gln Glu Cys Gln Cys Gly Glu Cys Pro Thr Glu Cys Phe His Cys
50 55 60